

## **APPENDIX 8.1. GLOSSARY OF VARIABLES AND THEIR VALUES FROM EIA'S RECS97**

The Department created a database, using Microsoft ACCESS, which contains a subset of the records and variables from EIA's 1997 *Residential Energy Consumption Survey* (RECS97).<sup>1</sup> The Department used this RECS subset in the life-cycle cost (LCC) analysis of the Residential Furnace and Boiler Rulemaking. This appendix explains the variable name abbreviations and provides definitions of the variable values. For the entire RECS97 dataset, refer to <http://www.eia.doe.gov/emeu/recs/contents.html>.

In the glossary below, the variable names are listed alphabetically. A brief explanation of the variable name as it appears in the database file follows the name. Definitions of the variable's values are listed below the name.

In the ACCESS database file, the Department created one table and a query file for each of the six product classes. Looking at the query filter shows the algorithm used to select the records for each different product class. The variables listed appear in the LCC spreadsheets in essentially the same order as they do in the database file.

**AGECENAC** AGE OF CENTRAL A/C  
EQUIP

LESS THAN 2 YEARS OLD = 1

2 TO 4 YEARS OLD = 2

5 TO 9 YEARS OLD = 3

10 TO 19 YEARS OLD = 4

20 YEARS OR OLDER = 5

AS OLD AS THE HOME (IF  
VOLUNTEERED) = 6

DON'T KNOW = 96

NOT APPLICABLE = 99

**BTUELCOL** ELEC AIR COND USE EST IN  
THOUSANDS OF BTU

9999999 = NOT APPLICABLE

**BTUFOSPH** FO SPACE HEAT USE EST  
THOUSANDS OF BTU 9999999 = NOT  
APPLICABLE

**BTULPSPH** LPG SPACE HEAT USE EST IN  
KS OF BTU 9999999 = NOT APPLICABLE

**BTUNGSPH** NAT GAS SPACE HEAT USE  
EST THOUSANDS OF BTU  
9999999 = NOT APPLICABLE

**CDD65** COOLING DD TO BASE 65 1-97  
TO 12-97

COOLING DEGREE DAYS ARE THE  
NUMBER OF DEGREES THE AVERAGE  
DAILY TEMPERATURE IS ABOVE THE  
BASE TEMPERATURE.

TO CALCULATE DEGREE DAYS:

AVERAGE DAILY TEMPERATURE (ADT) =  
HIGH TEMPERATURE FOR DAY PLUS THE  
LOW DIVIDED BY 2.

COOLING DEGREE DAY (CDD) = ADT -  
BASE TEMPERATURE. IF HDD OR CDD =  
OR < 0, DEGREE DAY (DD) = 0.

CUMULATED DEGREE DAYS ARE IN  
WHOLE DAYS.

**COOLTYPE** TYPE OF AC EQUIP

CENTRAL SYSTEM = 1

INDIVIDUAL UNITS = 2

BOTH CENTRAL AND UNITS = 3

DON'T KNOW = 6

REFUSED = 7

NO ANSWER = 8

NOT APPLICABLE = 9

**DIVISION** CENSUS DIVISION

NEW ENGLAND = 1

MIDDLE ATLANTIC = 2

EAST NORTH CENTRAL = 3

WEST NORTH CENTRAL = 4

SOUTH ATLANTIC = 5

EAST SOUTH CENTRAL = 6

WEST SOUTH CENTRAL = 7

MOUNTAIN = 8

PACIFIC = 9

**DOEID** DOE 4-DIGIT IDENTIFICATION  
NUMBER

**DOLLARFO** ESTIMATED COST OF FO IN  
DOLLARS 99999 = NOT APPLICABLE

**DOLLARLP** ESTIMATED COST OF LPG  
IN DOLLARS 99999 = NOT APPLICABLE

**ELECRATE** LOCAL ELECTRIC RATE FOR  
1000KWH AVERAGE RESIDENTIAL RATE,  
IN CENTS PER KILOWATT, OF  
ELECTRICITY COMPUTED FROM 1997  
TYPICAL ELECTRIC BILL DATA. WHERE  
DATA WERE NOT AVAILABLE, A RATE  
WAS IMPUTED FROM KNOWN RATES IN  
AREAS NEAR THE HOUSEHOLD WITH  
MISSING INFORMATION. DATA  
INCLUDES AN ERROR TERM.  
FIELD CONTAINS ONE IMPLIED  
DECIMAL PLACE.  
999 = NOT APPLICABLE

**EQUIPAGE** AGE OF MAIN HEATING  
EQUIP  
LESS THAN 2 YEARS OLD = 1  
2 TO 4 YEARS OLD = 2  
5 TO 9 YEARS OLD = 3  
10 TO 19 YEARS OLD = 4  
20 YEARS OR OLDER = 5  
AS OLD AS THE HOME (IF  
VOLUNTEERED) = 6  
DON'T KNOW = 96  
NOT APPLICABLE = 99

**EQUIPM** MAIN HOME HEATING  
EQUIPMENT  
STEAM = 2  
CENTRAL WARM-AIR FURNACE WITH  
DUCTS = 3  
HEAT PUMP = 4  
BUILT-IN ELECTRIC UNITS IN THE  
WALLS, ETC. = 5  
BUILT-IN FLOOR = 6  
ROOM HEATER BURNING GAS, OIL, OR  
KEROSENE = 7  
HEATING STOVE = 8  
FIREPLACE = 9  
PORTABLE ELECTRIC HEATERS = 10  
PORTABLE KEROSENE HEATERS = 11  
COOKING STOVE (USED TO HEAT  
HOME) = 12  
EQUIPMENT NOT LISTED = 21  
NOT APPLICABLE = 99

**FUELHEAT** MAIN HOME HEATING FUEL  
CON 3  
NATURAL GAS FROM UNDERGROUND  
PIPES = 1  
BOTTLED GAS (LPG OR PROPANE) = 2  
FUEL OIL = 3  
KEROSENE = 4  
ELECTRICITY = 5  
WOOD = 7  
SOLAR = 8  
DISTRICT STEAM = 9  
SOME OTHER FUEL = 21  
DON'T HEAT HOME = 00

**GALLONFO** EST GALLONS OF FUEL OIL  
BOUGHT 999999 = NOT APPLICABLE

**GALLONLP** EST GALLONS OF LPG  
BOUGHT OBS 6  
999999 = NOT APPLICABLE

**HDD65** HEATING DD TO BASE 65 1-97 TO 12-97

HEATING DEGREE DAYS ARE THE NUMBER OF DEGREES THE AVERAGE DAILY TEMPERATURE IS BELOW THE BASE TEMPERATURE.

TO CALCULATE DEGREE DAYS:

AVERAGE DAILY TEMPERATURE (ADT) = HIGH TEMPERATURE FOR DAY PLUS THE LOW DIVIDED BY 2.

HEATING DEGREE DAY (HDD) = BASE TEMPERATURE (E.G. 65 DEGREES) - ADT  
IF HDD = OR < 0, DEGREE DAY (DD) = 0.  
CUMULATED DEGREE DAYS ARE IN WHOLE DAYS.

**LRG+DIV** LARGE STATE AND CENSUS DIVISION DESIGNATIONS

NEW ENGLAND = 1

MIDDLE ATLANTIC LESS NY = 2

EAST NORTH CENTRAL = 3

WEST NORTH CENTRAL = 4

SOUTH ATLANTIC LESS FL = 5

EAST SOUTH CENTRAL = 6

WEST SOUTH CENTRAL LESS TX = 7

MOUNTAIN = 8

PACIFIC LESS CA = 9

NEW YORK STATE = 10

CALIFORNIA = 11

TEXAS = 12

FLORIDA = 13

**LRGSTATE** LARGE STATE DESIGNATION

NEW YORK STATE = 1

CALIFORNIA = 2

TEXAS = 3

FLORIDA = 4

**NHSLDMEM** NUMBER OF HOUSEHOLD MEMBERS

DON'T KNOW = 96

REFUSED = 97

NO ANSWER = 98

NOT APPLICABLE = 99

**NWEIGHT** THE FINAL WEIGHT

THE FINAL WEIGHT (REFLECTING THE PRODUCT OF THE PRE-SECOND STAGE WEIGHT AND THREE ADJUSTMENTS)

**POOR100** BELOW 100 PERCENT OF POVERTY

POVERTY DEFINED AS 100 PERCENT OF POVERTY LINE. POVERTY LINE VARIES WITH HOUSEHOLD SIZE (1-9), AGE AND HOUSEHOLD INCOME. FOR HOUSEHOLD SIZE OF :

1 - AGE 65 AND OVER, LESS THAN \$ 7,525

1 - AGE 64 AND UNDER, LESS THAN \$ 8,163

2 - AGE 65 AND OVER, LESS THAN \$ 9,491

2 - AGE 64 AND UNDER, LESS THAN \$ 10,507

3 - LESS THAN \$ 12,516

4 - LESS THAN \$16,036

5 - LESS THAN \$18,952

6 - LESS THAN \$21,389

7 - LESS THAN \$24,268

8 - LESS THAN \$27,091

9 OR MORE - LESS THAN \$31,971

POOR 100% = 1

NONPOOR = 0

NO ANSWER = 8

**REGIONC** CENSUS REGION

NORTHEAST = 1

MIDWEST = 2

SOUTH = 3

WEST = 4

**SQFTREG** MODEL-BASED EST. OF HEATED SQ FT

99999 = NOT APPLICABLE

**TYPEHUQ** RESP REPORTED TYPE OF HOME  
MOBILE HOME = 1  
SINGLE-FAMILY DETACHED = 2  
SINGLE-FAMILY ATTACHED = 3  
APARTMENT BUILDING WITH 2-4 UNITS = 4  
APARTMENT BUILDING WITH 5 OR MORE UNITS = 5

**UGASRATE** LOCAL NATURAL GAS RATE FOR MCF AVERAGE RESIDENTIAL RATE FOR MCF OF NATURAL GAS COMPUTED FROM 1997 TYPICAL NATURAL GAS BILL DATA. WHERE DATA WERE NOT AVAILABLE, A RATE WAS IMPUTED FROM KNOWN RATES IN AREAS NEAR THE HOUSEHOLD WITH MISSING INFORMATION. DATA INCLUDES AN ERROR TERM. HOUSEHOLDS THAT DO NOT USE NATURAL GAS ARE CODED 9999 FOR NOT APPLICABLE. FIELD CONTAINS TWO IMPLIED DECIMAL PLACES.

**YEARMAD** YEAR HOME BUILT  
BEFORE 1940 = 1  
1940-49 = 2  
1950-59 = 3  
1960-69 = 4  
1970-76 = 5  
1977-79 = 6  
1980-86 = 7  
1987-89 = 8  
1990 = 9  
1991 = 10  
1992 = 11  
1993 = 12  
1994 = 13  
1995 = 14  
1996 = 15  
1997 = 16  
NOT APPLICABLE = 99

**YEARS1** INFANTS IN HH UNDER 1  
NOT APPLICABLE = 99

**YEARS2** CHILDREN IN HH 1-12  
NOT APPLICABLE = 99

**YEARS3** ADULTS IN HH OVER 65  
DON'T KNOW = 96  
REFUSED = 97  
NO ANSWER = 98  
NOT APPLICABLE = 99

**YEARS4** ADULTS IN HH OVER 75  
NOT APPLICABLE = 99

## REFERENCE

1. U.S. Department of Energy - Energy Information Administration, *Residential Energy Consumption Survey: Household Energy Consumption and Expenditures 1997, 1999*. Washington, DC. Report No. DOE/EIA-0321(97).  
<<http://www.eia.doe.gov/emeu/recs/recs97/publicusefiles.html>>